

**ABSTRACT**

A method for constructing routing/forwarding tables for an IP address lookup using a skip list. The method comprises dividing a prefix length range of an IP address in a preset method; creating a header node having a maximum level based on a number of clusters divided into the prefix length range, the header node pointing every node in the skip list; and creating subnodes by the number of the divided clusters, the subnodes each having the divided prefix length range as a key.